

## CLAIMS

We claim:

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H1
1. A method for identifying duplicate records among  
2 multiple systems, comprising the steps of:
    - 3 loading first records having an index number into a  
4 database during a first predetermined time period;  
5 for each record having said index number, searching  
6 said database for another record, loaded during a  
7 second earlier time period, having the same index  
8 number and replacing said another record, if found,  
9 with said first record;  
10 comparing each first record for which no matching index  
11 number record was found with all other first records  
12 for which no matching index number record was found;  
13 comparing each of said first records for which no  
14 matching index number record was found with all the  
15 other records including the replaced records in said  
16 database;

17 generating reports of the comparing steps, the reports  
18 listing records which compared; and  
  
19 eliminating from said database said first records  
20 deemed to have compared.

1 2. The method of claim 1, said records being invoice  
2 records.

1 3. A method for providing a report that can be used to  
2 evaluate two or more invoiced documents for further  
3 investigation of possible duplicate invoicing, comprising  
4 the steps of:

5 maintaining a compact database by removing canceled  
6 invoice documents and invoice documents older than a  
7 predetermined period;

8 extracting data from said compact database by matching  
9 on suppliers invoice indicia, name, date and amount;  
10 and

11 producing said report from said data.

1 4. The method of claim 3, further comprising the step of:  
2 entering invoice data to said compact database from a  
3 plurality of accounts payable systems.

1 5. The method of claim 3, further comprising the steps of:  
2 first entering said invoices into said compact database  
3 for payment at a later date; and  
4 checking said compact database for duplicate invoices  
5 before said later date.

1 6. The method of claim 3, further comprising the step  
2 responsive to submission of an invoice with a null invoice  
3 indicia field of entering date indicia in said null invoice  
4 indicia field.

1 7. Method for capturing packets of possible duplicate  
2 invoices for duplicate invoice analysis, comprising the

3 steps of:

4 maintaining a collection of current invoices that have  
5 not yet been paid;

6 maintaining a collection of history invoices that have  
7 been paid; and

8 generating from said current invoices and said history  
9 invoices a packet of invoices exhibiting a same  
10 behavior, said packet including at least one invoice  
11 from said collection of current invoices.

1 8. The method of claim 7, each invoice comprising a record  
2 including vendor identifier indicia, vendor record indicia,  
3 date indicia, and amount indicia.

1 9. The method of claim 8, each said record including a  
2 vendor record indicia field, a data indicia field, and an  
3 amount indicia field.

1 10. The method of claim 9, further comprising the steps of:

2 flagging said invoices in said packet against each  
3 other with respect to expert criteria;

4 dropping from said packet unflagged invoices; and

5 discarding remaining packets having no current  
6 invoices.

1 11. The method of claim 10, further comprising the step of  
2 flagging record pairs having transposed digits in said  
3 vendor record indicia fields.

1 12. The method of claim 10 further comprising the step  
2 responsive to receiving an invoice with null vendor record  
3 indicia field of entering date indicia as date-like indicia  
4 to said vendor record indicia field.

1 13. The method of claim 12, further comprising the step of  
2 flagging invoice pairs having a same vendor identifier  
3 indicia and date-like indicia in said vendor indicia field.

1 14. The method of claim 10, further comprising the step of  
2 flagging invoice pairs having matching vendor record  
3 indicia.

1 15. The method of claim 10, further comprising the step of  
2 flagging invoice pairs having, for matching vendor  
3 identification indicia, matching vendor record indicia  
4 except for a prefix or suffix character.

1 16. The method of claim 10, further comprising the step of  
2 flagging invoice pairs, for matching vendor identification  
3 indicia, having vendor record indicia of different lengths.

1 17. The method of claim 10, further comprising the step of  
2 flagging invoice pairs matching on said vendor record  
3 indicia while ignoring embedded blanks.

1 18. The method of claim 12, further comprising the steps  
2 of:

3 flagging invoice pairs having transposed digits in said

4 vendor record indicia fields;

5 flagging invoice pairs having a same vendor identifier  
6 indicia and date-like indicia in said vendor indicia  
7 field;

8 flagging invoice pairs having matching vendor record  
9 indicia;

10 flagging invoice pairs having, for matching vendor  
11 identification indicia, matching vendor record indicia  
12 except for a prefix or suffix character;

13 flagging invoice pairs, for matching vendor  
14 identification indicia, having vendor record indicia of  
15 different lengths; and

16 flagging invoice pairs matching on said vendor record  
17 indicia while ignoring embedded blanks.

1 19. The method of claim 7, further comprising the step of  
2 forcing all said invoices to be current.

1 20. The method of claim 7, further comprising the step of  
2 capturing packets having same vendor and invoice numbers.

1 21. The method of claim 7, further comprising the step of  
2 capturing packets having similar vendor names and same  
3 invoice amount.

1 22. The method of claim 7, further comprising the step of  
2 capturing packets having similar invoice dates and amounts,  
3 differing only on flagged conditions.

1 23. The method of claim 7, further comprising the step of  
2 capturing packets having same invoice amount and numbers but  
3 not same date and vendor name.

1 24. The method of claim 7, further comprising the step of  
2 capturing packets having same invoice number and vendor name  
3 but not same vendor number and invoice amount.



1 25. The method of claim 7, further comprising the step of  
2 capturing packets having the same vendor number and same  
3 invoice number and amount, irrespective of invoice date.

1 26. A program storage device readable by a machine,  
2 tangibly embodying a program of instructions executable by a  
3 machine to perform method steps for identifying duplicate  
4 records among multiple systems, said method steps  
5 comprising:

6 loading first records having an index number into a  
7 database during a first predetermined time period;

8 for each record having said index number, searching  
9 said database for another record, loaded during a  
10 second earlier time period, having the same index  
11 number and replacing said another record, if found,  
12 with said first record;

13 comparing each first record for which no matching index  
14 number record was found with all other first records  
15 for which no matching index number invoice was found;

16 comparing each of said first invoices for which no  
17 matching index number record was found with all the  
18 other records including the replaced records in said  
19 database;

20 generating reports of the comparing steps, the reports  
21 listing records which compared; and

22 eliminating from said database said first records  
23 deemed to have compared.

1 27. A program storage device readable by a machine,  
2 tangibly embodying a program of instructions executable by a  
3 machine to perform method steps for providing a report that  
4 can be used to evaluate two or more invoiced documents for  
5 further investigation of possible duplicate invoicing, said  
6 method steps comprising:

7 maintaining a compact database by removing canceled  
8 invoice documents and invoice documents older than a  
9 predetermined period;

10 extracting data from said compact database by matching  
11 on suppliers invoice indicia, name, date and amount;  
12 and

13 producing said report from said data.

1 28. A program storage device readable by a machine,  
2 tangibly embodying a program of instructions executable by a  
3 machine to perform method steps for capturing packets of  
4 possible duplicate invoices for duplicate invoice analysis,  
5 said method steps comprising:

6 maintaining a collection of current invoices that have  
7 not yet been paid;

8 maintaining a collection of history invoices that have  
9 been paid; and

10 generating from said current invoices and said history  
11 invoices a packet of invoices exhibiting a same  
12 behavior, said packet including at least one invoice  
13 from said collection of current invoices.

1 29. A system for capturing packets of possible duplicate  
2 invoices for duplicate invoice analysis, comprising:

3 a current file of invoices that have not yet been paid;

4 a history file of invoices that have been paid; and

5 a packet of invoices generated from said current file  
6 and said history files for storing invoices exhibiting  
7 a same behavior, said packet including at least one  
8 invoice from said of current file.

1 30. The system of claim 29, said packet containing invoices  
2 having same vendor and invoice numbers.

1 31. The system of claim 29, said packet containing invoices  
2 having similar vendor names and same invoice amount.

1 32. The system of claim 29, said packet containing invoices  
2 having similar invoice dates and amounts, differing only on  
3 flagged conditions.

1 33. The system of claim 29, said packet containing invoices  
2 having same invoice amount and numbers but not same date and  
3 vendor name.

1 34. The system of claim 29, said packet containing invoices  
2 having same invoice number and vendor name but not same  
3 vendor number and invoice amount.

1 35. The system of claim 29, said packet containing invoices  
2 having the same vendor number and same invoice number and  
3 amount, irrespective of invoice date.

1 36. A computer program product or computer program element  
2 for identifying duplicate records among multiple systems  
3 according to method steps comprising:

4 loading first records having an index number into a  
5 database during a first predetermined time period;

6 for each record having said index number, searching  
7 said database for another record, loaded during a  
8 second earlier time period, having the same index

9 number and replacing said another record, if found,  
10 with said first record;

11 comparing each first record for which no matching index  
12 number record was found with all other first records  
13 for which no matching index number invoice was found;

14 comparing each of said first invoices for which no  
15 matching index number record was found with all the  
16 other records including the replaced records in said  
17 database;

18 generating reports of the comparing steps, the reports  
19 listing records which compared; and

20 eliminating from said database said first records  
21 deemed to have compared.

1 37. A computer program product or computer program element  
2 for capturing packets of possible duplicate invoices for  
3 duplicate invoice analysis according to method steps  
4 comprising:

5 maintaining a collection of current invoices that have  
6 not yet been paid;

7 maintaining a collection of history invoices that have  
8 been paid; and

9 generating from said current invoices and said history  
10 invoices a packet of invoices exhibiting a same  
11 behavior, said packet including at least one invoice  
12 from said collection of current invoices.

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